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SUMMER POLAR BEAR TAGGING ON MANSEL ISLAND, N.W.T.

N.W.T. Wildlife Service
Government of the Northwest Territories

SUMMER POLAR BEAR TAGGING ON MANSEL ISLAND, N.W.T.

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ᐊᓇᕐᓂᐊᒃᑐ ᓄᓇᓕᒫᖅᑐ ᓄᓐᐃᑦ ᖃᐅᔨᓴᖅᑕᐅᓕᐅᖅᓯᑦ ᐊᐅᔪᓕᑎᐅᓪᓗ ᐱᒋᐊᖅᓯᒪᓂᖅ 1978ᖑᑎᓄᔪ. ᐊᑐᓕᐅᖅᓱᔪᑦ (Canadian Coastguard) ᖃᓄᐃᔪᓂᒃ. ᓄᓕᐅᑦᑕᓕᐅᖅᓱᔪᑦ ᐊᐅᓚᒃ ᓯᑦ ᓄᓐᐃᑦ ᐊᒥᓱᓕᑎᒋᒃ ᑕᒪᑦ 25ᒥᑦ - 30ᔪᑦ ᑎᑭᓕᒪᖃᖅᑕᑎᑦᑕᒪᒋᑦᑕ. ᒪᓯᐊ (6)ᖑᔪᐃᑦ ᓄᓐᐃᑦ ᓕᓂᓐᓇᖅᑐᓄᑦ (ᓄᑭᖃᖅᓇᒃᑐᓄᑦ) ᑲᐱᓚᐅᓕᓕᐅᖅᑐᑦ ᐊᒃᓪᓚᓗ ᓇᓗᓇᐃᒃ ᓯᓕᖅᑕᐅᑐᓗᑎᒃ ᓂᐱᖃᖅᑕᒃ. ᑕᐃᓐᓇ ᐃᓕᖃᑦ ᐊᑕᐅᓕᖅᓴᒃ ᓇᓂᓚᐅᑲᓐᓇᖅᑎᓕᖅᓴᒃ ᓯᓚᑦᓯᒃ ᓴᓕᖅᓴᒃ. ᑕᒪᓐᓇ ᑐᑭᖃᖅᑐᓴᖅᓯᒪᑦ ᓄᓐᐃᑦ ᐊᐅᓚᒃ ᓯᑦ ᓄᓇᓕᒫᖅᑐᒥᔪᐃᑦ ᐃᓕᑎᐅᔪᐊᑦ ᑲᑦᓯᑎᐅᑦ ᖁᑭᑦᑕᑦᓴᖅᓯᒪᓂᖅ ᑕᒪᐅᓇᓕᒫᖅ (Hudson Strait)ᓯᑦ ᐊᒃᓪᓚᓗ ᓴᓇᔪᓚᐅᒪᑦ ᑎᑭᐅᓚᓗᒥᓂ.

ABSTRACT

Mansel Island, N.W.T. was surveyed for polar bears during early August 1978. Transects were flown in a Canadian Coastguard helicopter. The survey yielded a summer population estimate of 25-30 individuals. After being immobilized with phencyclidine hydrochloride administered by dart, six bears were marked with tags. One was later recaptured off the Labrador coast. This suggests that the polar bears summering on Mansel Island are part of the population which extends from Southampton Island through Hudson Strait to Labrador.

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INTRODUCTION

The population size and range of polar bears in the area of northeast Hudson Bay and Southampton Island, Hudson Strait are largely unknown. The islands of western Hudson Strait serve as polar bear summer retreats and are accessible for population surveys and suitable for summer tagging programmes.

Mansel Island, Northwest Territories ($62^{o}00'N$, $80^{o}00'W$) (Fig. 1) is located 100 km west of the Ungava Peninsula, northern Quebec. The island covers roughly 2800 sq km and reaches a maximum elevation of 100 m. The topography is characterized by raised beaches, tundra bogs, and a multitude of shallow ponds and sloughs. The only river of note nearly bisects the island from east to west.

The area has been shown to be a polar bear summer retreat (Juniper, Quebec Wildlife Service, pers. comm.) with a summering population of approximately 30 animals. Quebec Inuit hunt polar bears in the area during late autumn and winter but no records of kill data are kept.

This investigation attempted to fullfill two objectives:

1) To estimate the size of the polar bear population of Mansel Island during the summer of 1978.

2) To tag bears to obtain information on movements and determine to which population the polar bears of Mansel Island belong.

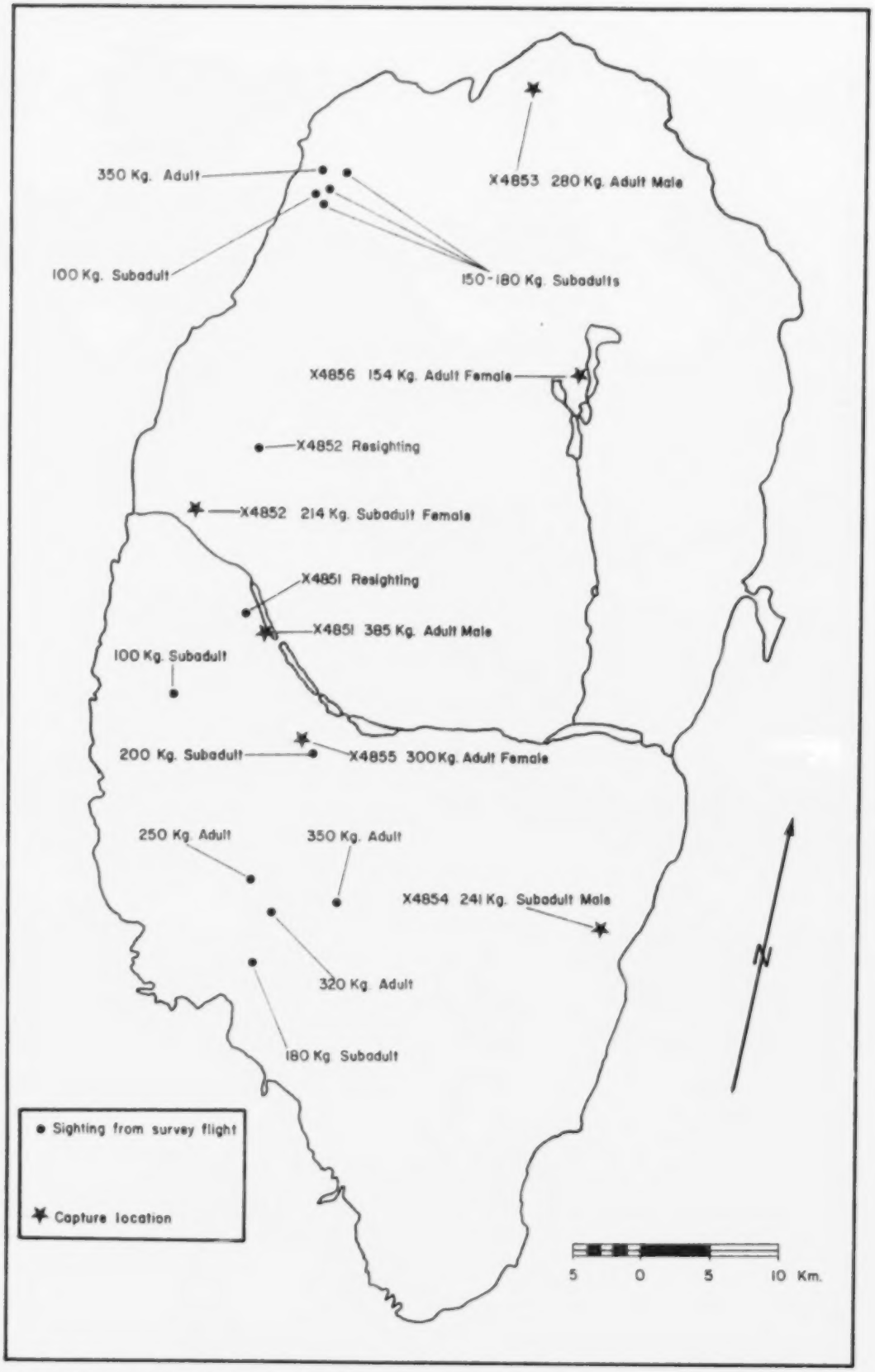

Figure 1. Mansel Island showing locations of all polar bears sighted or captured with measured or estimated weight and age class.

METHODS

To estimate the polar bear population of the area the island was divided into north-south transects 5 km apart. Transects were flown on 5 August 1978 in a Bell Jet Ranger 206 B helicopter from the ice breaker, C.C.G. Norman Mcleod Rogers at an altitude of 200 m and an air speed of approximately 190 km/hr. With three observers it was possible to view the entire distance between transects. When a bear was sighted, the transect was temporarily abandoned to confirm the sighting. The estimate thus obtained was simply a direct count. Unfortunately because of mechanical difficulties, only the western half of the island was surveyed.

Polar bears were immobilized using a Cap-chur gun (Palmer Chemicals) firing 7 or 10 cc. darts bearing 4 or 5 cm barbed needles driven with Cap-chur low power green charges. Bears were darted from the helicopter and immobilized with phencyclidine hydrochloride (Sernylan) supplemented with promazine hydrochloride (Sparine). Initial phencyclidine dosages approximated 4.4 mg per kg of bear and additional dosages were given, when necessary, in accordance with the bear's condition. Promazine dosages varied, but were generally half to one third the phencyclidine dose.

Immobilized bears were approached on foot. The bear was measured for zoological and straight line length, as well as axillary girth. Weight was determined using a weight-tape. The

bear's sex was determined, a first pre-molar extracted for ageing, each ear marked with a numbered delrin tag, both upper lips tattooed with a number corresponding to the ear tag, and the condition of the bear subjectively noted on a fat index of 1 - 5. A vaginal smear was taken from female bears when possible. Ages were determined after Thomas and Bandy (1973) as modified by Stirling et al. (1977).

RESULTS

Census

Figure 1 illustrates the locations of all bears sighted or tagged and their estimated or measured weight. Thirteen lone bears two of which had been previously tagged, were counted on the western half of the island. No family groups were observed either during the transect census or during tagging flights. If the eastern half of the island contained a density of bears equal to the west, then the resident population would be 25-30 individuals.

Tagging

During 1.5 days of tagging six bears were captured. Table 1 gives their assigned number, age, weight and sex. Subsequent to this study[1] , one bear, X04856, was recaptured 24 March 1979 off the Labrador coast at Napaktok Bay (Fig. 2) having travelled over 1000 km in 7 months.

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[1]A second bear X4851 was shot by a hunter from Ivugivik, Quebec during the 1978-79 season (ed. note).

Table 1. Number, age, sex, and weight of polar bears captured on Mansel Island in August 1978.

Bear Number	Age (years)	Sex	Weight (kg)
X4851	06	M	385
X4852	04	F	214
X4853	06	M	280
X4854	04	M	241
X4855	13	F	300
X4856	05	F	154

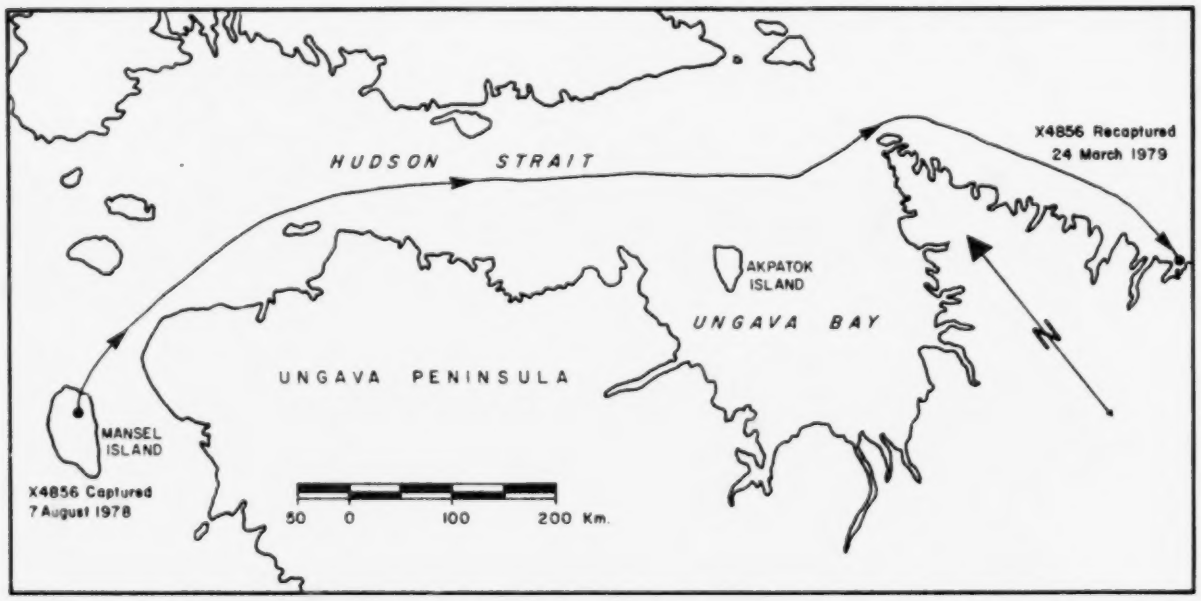

Figure 2. Recorded movement of polar bear X4856 from Mansel Island to the Labrador coast.

DISCUSSION

The results of the census confirm former summer population estimates, for Mansel Island (Juniper, Quebec Wildlife Service pers. comm.). The complete absence of family groups differs markedly from what Juniper found (Juniper pers. comm.). The ice conditions in Hudson Strait were very unusual in 1978 with dense pack ice remaining well into August. It is possible that females with cubs remained on the ice for most of the summer. One female with two yearling cubs was observed on pack ice near Diggs Island, northern Quebec, while we were on route to Mansel Island.

The recapture of X4856 on the Labrador coast would tend to establish the Mansel Island summer polar bear population as a part of the group whose range extends at least from south Southampton Island, through Hudson Strait and down the Labrador coast. This was suggested when a Coral Harbour, N.W.T. Inuit shot a Labrador tagged bear during the 1978/79 polar bear season.

RECOMMENDATIONS

More tag returns are required from the area between Mansel Island and the Labrador Coast to confirm the range of bears in this population. At present, Quebec Inuit hunt these bears within Northwest Territories boundaries, but are not required by either the

Quebec or N.W.T. governments to report any tag returns. It is therefore recommended that N.W.T. Wildlife regulations be enforced on the islands of Hudson Strait, a quota be assigned to Inuit hunting there, and the jaw and data collection programme presently being conducted in all other N.W.T. regions be extended to this area.

ACKNOWLEDGEMENTS

I would like to extend my sincere appreciation to the captain and crew of the ice breaker C.C.G. Norman McLeod Rogers with special thanks to Phillip Lavoir for his excellent helicopter flying. Ian Juniper, Quebec Wildlife Service, assisted greatly in all phases of the programme.

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